

We claim:

1. A method for routing a call across a first ATM network toward a second ATM network, each network having an addressing format, the addressing format of the first network being different from the addressing format of the second network, the call having an associated signaling message specifying a destination address in the second network, the method comprising the steps of:
5 translating the destination address into a local address in the addressing format of the first network;
repacking the signaling message with the local address as a routing address;
10 routing the call through the first network using the local address; and
repacking the signaling message with the destination address as the routing address.
2. The method of claim 1 further comprising the step of forwarding the call toward the second network.
3. The method of claim 1 wherein the step of translating the destination address into a local address includes the substep of
querying an address translation database populated with an address
interface identifier pair to obtain the local address.
4. The method of claim 1 wherein the step of translating the destination address into a local address includes the substep of
querying an address translation database populated with an address
interface identifier pair to obtain the local address, wherein the interface identifier
5 pair specifies as the local address the address of an egress port in the first network.

5. The method of claim 1 wherein the step of translating the destination address into a local address includes the substep of querying an address translation database populated with an address interface identifier pair to obtain the local address, wherein the interface identifier pair specifies as the local address the address of an egress port in the first network and specifies the destination address, and wherein the local address corresponds to the destination address such that routing the call to the local address causes the call to be routed toward the second network.

6. The method of claim 1 wherein the step of translating the destination address into a local address includes the substep of applying a conversion algorithm to the destination address to obtain the local address.

7. The method of claim 1 wherein the step of translating the destination address into a local address includes the substep of applying a conversion algorithm to the destination address to obtain the local address, wherein the local address corresponds to the destination address such that routing the call to the local address causes the call to be routed toward the second network.

8. The method of claim 1 wherein the step of routing the call through the first network includes the substep of carrying the destination address transparently across the first network.

9. The method of claim 8, wherein the signaling message further specifies a destination address in an end system beyond the second network, and wherein the step of routing the call through the first network further includes the substep of

5 carrying the end system destination address transparently across the first network.

10. The method of claim 8, wherein the signaling message further specifies a destination address in an end system beyond the second network, wherein the destination address is a network-level address and the end system destination address is a user-level address, and wherein the step of routing the call through the first network further includes the substep of

5 carrying the end system destination address transparently across the first network.

11. The method of claim 1 wherein the step of repacking the signaling message with the local address includes the substeps of

demoting the destination address from a first signaling message parameter to a second signaling message parameter; and

5 inserting the local address into the first signaling message parameter.

12. The method of claim 11 wherein the step of repacking the signaling message with the destination address includes the substeps of

discarding the local address from the first signaling message parameter;
and

5 promoting the destination address to the first signaling message parameter.

13. An apparatus for use in routing a call across a first ATM network toward a second ATM network, each network having an addressing format, the addressing format of the first network being different from the addressing format of the second network, the call having an associated signaling message specifying a destination address in the second network, the apparatus comprising:

an address resolution server for translating the destination address into a local address in the addressing format of the first network;

means for repacking the signaling message with the local address as a routing address;

means for routing the call through the first network using the local address; and

means for repacking the signaling message with the destination address as the routing address.

14. The apparatus of claim 13 further comprising means for forwarding the call toward the second network.

15. The apparatus of claim 13 wherein the address resolution server includes

means for querying an address translation database populated with an address interface identifier pair to obtain the local address.

16. The apparatus of claim 13 wherein the address resolution server includes

means for querying an address translation database populated with an address interface identifier pair to obtain the local address, wherein the interface identifier pair specifies as the local address the address of an egress port in the first network.

17. The apparatus of claim 13 wherein the address resolution server includes

means for querying an address translation database populated with an address interface identifier pair to obtain the local address, wherein the interface identifier pair specifies as the local address the address of an egress port in the first network, and wherein at least one interface identifier pair further specifies the destination address, the local address corresponding to the destination address such that routing the call to the local address causes the call to be routed toward the second network.

18. The apparatus of claim 13 wherein the address resolution server includes

means for applying a conversion algorithm to the destination address to obtain the local address.

19. The apparatus of claim 13 wherein the address resolution server includes

means for applying a conversion algorithm to the destination address to obtain the local address, wherein the local address corresponds to the destination address such that routing the call to the local address causes the call to be routed toward the second network.

20. The apparatus of claim 13 wherein the means for routing the call through the first network includes

means for carrying the destination address transparently across the first network.

21. The apparatus of claim 20, wherein the signaling message further specifies a destination address in an end system beyond the second network, and wherein the means for routing the call through the first network further includes means for carrying the end system destination address transparently across the first network.

22. The apparatus of claim 20, wherein the signaling message further specifies a destination address in an end system beyond the second network, wherein the destination address is a network-level address and the end system destination address is a user-level address, and wherein the means for routing the call through the first network further includes means for carrying the end system destination address transparently across the first network.

23. The apparatus of claim 13 wherein the means for repacking the signaling message with the local address includes means for demoting the destination address from a first signaling message parameter to a second signaling message parameter; and means for inserting the local address into the first signaling message parameter.

24. The apparatus of claim 23, wherein the means for repacking the signaling message with the destination address includes means for discarding the local address from the first signaling message parameter; and means for promoting the destination address to the first signaling message parameter.

25. A communications network comprising:

a first ATM network interconnected to a second ATM network, each network having an addressing format, the addressing format of the first network being different from the addressing format of the second network, the first network handling a call having an associated signaling message specifying a destination address in the second network, the first network including:

an address resolution server for translating the destination address into a local address in the addressing format of the first network;

means for repacking the signaling message with the local address as a routing address;

means for routing the call through the first network using the local address; and

means for repacking the signaling message with the destination address as the routing address.

26. The communications network of claim 25 further including means for forwarding the call toward the second network.

27. The communications network of claim 25 wherein the means for routing the call through the first network includes

means for carrying the destination address transparently across the first network.

28. The communications network of claim 25 wherein the means for repacking the signaling message with the local address includes

means for demoting the destination address from a first signaling message parameter to a second signaling message parameter; and

means for inserting the local address into the first signaling message parameter.

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means for promoting the destination address to the first signaling message parameter.

30. A method for routing a call in a communications network, the communications network comprising a first ATM network interconnected to a second ATM network, each network having an addressing format, the addressing format of the first network being different from the addressing format of the second network, the first network handling a call having an associated signaling message specifying a destination address in the second network, the method comprising the steps of:

translating the destination address into a local address in the addressing format of the first network;

repacking the signaling message with the local address as a routing address;

routing the call through the first network using the local address; and
repacking the signaling message with the destination address as the routing address.

31. The method of claim 30 further comprising the step of forwarding the call toward the second network.

32. The method of claim 30 wherein the step of routing the call through the first network includes the substep of carrying the destination address transparently across the first network.

33. The method of claim 30 wherein the step of repacking the signaling message with the local address includes the substeps of

demoting the destination address from a first signaling message parameter to a second signaling message parameter; and

inserting the local address into the first signaling message parameter.

34. The method of claim 33 wherein the step of repacking the signaling message with the destination address includes the substeps of
discarding the local address from the first signaling message parameter;
and
promoting the destination address to the first signaling message parameter.

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